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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,493	07/02/2003	Daniel David Lecloux	UC0213 US NA2	3538
23906	7590	05/07/2004	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			AULAKH, CHARANJIT	
			ART UNIT	PAPER NUMBER
			1625	

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/612,493

Applicant(s)

LECLOUX ET AL.

Examiner

Charanjit S. Aulakh

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 6-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. According to paper filed on April 14, 2004, the applicants have elected group I, claims 1-5 for prosecution in response to restriction requirement. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse ; see MPEP 818.03(a).
2. Claims 1-39 are pending in the application. Claims 6-39 are withdrawn from further consideration as being directed to non-elected inventions.

### ***Drawings***

3. The drawings for figures 2-5 and 7 do not correspond to the description of the drawings in the specification on page 5. In the specification, only figures 1-8 are described. However, according to drawings, there are figures 2A, 2B, 3A to 3I, 4A to 4H, 5A to 5E, 7A and 7B which are not described in the specification. On the other hand, there are no drawings for figures 2-5 and 7. Also, according to description of figure 3 in the specification, formulae I(a) through I(i) are mentioned. However, according to the drawings, figures 3A to 3I are directed to formulae II(a) through II(i). An appropriate correction is required.

### ***Specification***

4. The applicants refer to figures for phenanthroline derivatives of various formulae. The applicants are suggested to include these formulae in the specification for clarity since variables R1-R3, x, y, m etc. in these formulae are defined in the specification and not in the drawings.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-5, it is not clear what type of composition is being claimed? Is it pharmaceutical, cleaning, pesticidal or something else?

In independent claim 1, formula I is not present in the claim 1. The applicants direct to figure 1 for formula I. This is confusing. The applicants are suggested to insert the formula I in claim 1. Also, it is very confusing and difficult to understand various variables present on the phenanthroline tricyclic ring system based on the values of variables a, b and c. The applicants have put a proviso. However, it is not clear which aromatic group is being referred here since all three rings in the tricyclic ring system are aromatic rings and the substituents R1 and R2 also contain aromatic groups. Is this aromatic group is in addition to substituents R1 and R2?

In claim 1, the value of variable n defined as an integer is indefinite. The applicants are suggested to include specific values such as 1-3 or 1-5 etc.

In claim 1, the values of variables R1 and R2 defined as heteroaryl is indefinite since the size of the ring, number and types of heteroatoms present in the ring are not defined.

In claim 1, the value of variables R1 and R2 defined as heteroalkyl is indefinite since its meaning is not clear. Should it read as heterocyclyl?

In claim 5, formulae I(b) through I(f) are neither present in the claim nor in figure 3. The applicants are suggested to include these formulae in the claim.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nakada ( EP 0 564 224, cited on applicants form 1449 ).

Nakada discloses organic electroluminescence device having an electron transport layer comprising phenanthroline derivatives of formula (Ia ). The compounds of formula (Ia) disclosed on page 10, compounds 27-44 and 65-69 disclosed on pages 11-22 by Nakada clearly anticipate the instant claims.

8. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dietrich-Buchecker ( Tetrahed. Lett., cited on applicants form 1449 ).

Dietrich-Buchecker discloses selective and efficient synthesis of substituted 1, 10-Phenanthrolines. The compounds 2b, 3b and 4b disclosed in figure 1 ( see page 3396 ) clearly anticipate the instant claims.

9. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Daniel ( U.S. Patent no. 4,853,090 ).

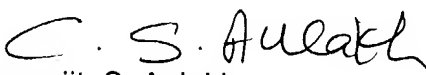
Daniel discloses Lithium ion-selective compositions, electrodes and a method of use. The compositions comprising compounds disclosed in columns 7-10 and 13-19 as well as claims 1-9 clearly anticipate the instant claims.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charanjit S. Aulakh whose telephone number is (571)272-0678. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)272-0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Charanjit S. Aulakh  
Primary Examiner  
Art Unit 1625